CLAIMS:

1. (Original) A method of synthesizing a complex sound, comprising:

generating a plurality of different kinds of simpler sound events with repetitive occurrences of each kind,

establishing respective random time distributions for the occurrences of at least some of said kinds of sounds, and

combining said simpler sound events into said complex sound.

2. (Original) The method of claim 1 wherein, for at least some of said kinds of sound events with a random time distribution, the average rate of generating said sound event occurrences is constant.

3. (Original) The method of claim 1 wherein, for at least some of said kinds of sound events with a random time distribution, the average rate of generating said sound event occurrences is time varying.

4. (Original) The method of claim 3, wherein said time varying average rate combines constant and time varying components.

5. (Original) The method of claim 1, wherein said random time distribution is established in accordance with white noise crossing a predetermined threshold in a predetermined direction.

6. (Currently Amended) ~~The~~ A method of ~~claim 5~~ synthesizing a complex sound, comprising:

generating a plurality of different kinds of simpler sound events with repetitive occurrences of each kind,

establishing respective random time distributions for the occurrences of at least some of said kinds of sounds, and

combining said simpler sound events into said complex sounds,

wherein said random time distribution is established in accordance with white noise crossing a predetermined threshold in a predetermined direction, said white noise is low pass filtered, and the filter bandwidth determines the average rate of generating said sound event occurrences.

7. (Original) The method of claim 6, wherein said filter bandwidth is selectable.

8. (Original) The method of claim 6, wherein said white noise is filtered by a second-order filter having a frequency response characteristic $F(z)$:

$$F(z) = [(1 + a_1)(1 + a_1)]/[(1 + a_1 z^{-1})(1 + a_1 z^{-1})],$$

where $a_1 = -1 + 2\pi R_{avg} / F_s$,

R_{avg} is the desired average rate, and

F_s is the filter sampling rate.

9. (Original) The method of claim 1, wherein said random time distribution is predetermined for at least some of said kinds of sounds.

10. (Original) The method of claim 9, wherein a random time delay to the next sound event occurrence is selected from said predetermined distribution in response to each sound event occurrence.

11. (Original) The method of claim 9, wherein an entire sequence of random time delays between said sound event occurrences is selected from said predetermined distribution prior to generating said sound event occurrences.

12. (Original) The method of claim 1, wherein said random time distribution is user defined for at least some of said kinds of sounds.

13. (Original) The method of claim 1, wherein said sound events with random time distributions are characterized by a plurality of different parameters.

14. (Original) The method of claim 13, wherein said parameters include one or more of wave selection, pitch distribution, pan distribution and amplitude distribution.

15. (Original) The method of claim 13, wherein the values of said parameters are varied among said sound event occurrences in accordance with random distributions for at least some of said kinds of sounds.

16. (Original) The method of claim 15, wherein the values of said parameters are varied among said sound event occurrences in accordance with random distributions for at lest some of said kinds of sounds.

17. (Original) The method of claim 16, wherein said parameter values have random distributions that are user selectable.

18. (Original) The method of claim 17, wherein said parameter value random distributions are Gaussian with user selectable mean and standard deviation values.

19. (Original) The method of claim 16, wherein said parameters have user selectable minimum and maximum values for at lest some of said kinds of sounds.

20. (Original) The method of claim 19, wherein a new parameter value is randomly selected if a selected parameter value does not fall within said minimum and maximum values.

21. Original) The method of claim 16, wherein the values of said parameters have different respective random distributions for at least some of said kinds of sounds.

22. (Original) The method of claim 16, wherein the values of said parameters have the same random distribution for at least some of said kinds of sounds.

23. (Original) The method of claim 16, wherein the random distributions for at least some of said pa-

rameter values are variable for at least some of said kinds of sounds.

24. (Original) The method of claim 23, wherein the average rate of generating said sound event occurrences is time varying, and said variable parameter value random distributions are varied in accordance with said average rate of generating said sound event occurrences.

25. (Original) The method of claim 16, wherein at least some of said parameters are characterized by respective parameter selectors.

26. (Original) The method of claim 25, wherein the average rate of generating said sound event occurrences is time varying, and at least some of said variable parameter selectors have random distributions with average values that vary in accordance with the variation in the average rate of generating said sound event occurrences.

27. (Original) The method of claim 25, said parameter selectors including mean, standard deviation, minimum and maximum values.

28. (original) The method of claim 27, wherein said parameter selectors vary with time in different respective ways.

29. (Original) The method of claim 13, wherein said method is used to generate sounds for a game, and said parameters are varied for at least some of said

kinds of sounds in accordance with the occurrence of predetermined game events.

30. (Original) The method of claim 13, wherein the values of said parameters are user selectable for at least some of said kinds of sounds.

31. (Original) The method of claim 13, wherein at least some of said parameters are characterized by respective random distributions of values having predetermined average values.

32. (Original) The method of claim 31, wherein at least some of said predetermined average values are varied during the course of generating a complex sound event.

33. (Original) The method of claim 1, wherein said sound events are stored in a digital wavetable synthesizer.

34. (Original) The method of claim 1, wherein said sound events are generated by an analog sound synthesizer.

35. (Original) A method of synthesizing a complex sound event, comprising:

generating a succession of simpler sound events that are distributed in time with a random time distribution,

controlling said simpler sound events in accordance with one or more sound event parameters, and

selecting the values of said sound event parameters in accordance with respective input parameters having random distributions.

36. (Original) The method of claim 35, wherein said average rate of generating said simpler sound events is constant.

37. (Original) The method of claim 35, wherein said average rate of generating said simpler sound events is time varying.

38. (Original) The method of claim 37, wherein said average rate of generating said simpler sound events combines constant and time varying components.

39. (Original) The method of claim 35, wherein said sound event parameters comprise one or more of wave selection, pitch distribution, pan distribution and amplitude distribution.

40. (Original) The method of claim 39, wherein said input parameters comprise one or more of mean, standard deviation, minimum value and maximum value.

41. (Original) The method of claim 35, wherein said input parameters have different random distributions.

42. (Original) The method of claim 35, wherein said input parameters have a common random distribution.

43. (Original) The method of claim 35, wherein the random distribution for at least one of said input parameters is the same as the random distribution for generating said succession of simpler sound events.

44. (Original) The method of claim 35, wherein the generation of each successive simpler sound event is triggered in accordance with said random time distribution, and the selection of sound event parameter values for each simpler sound event is triggered in response to the triggering of that sound event.

45. (Original) The method of claim 35, wherein multiple successions of different simpler sound events are generated and distributed in time in accordance with respective random time distributions.

46. (Original) The method of claim 45, wherein the generation of said multiple successions of different simpler sound events is triggered repeatedly in accordance with a trigger sequence having a random time distribution.

47. (New) The method of claim 1, wherein said random time distributions are independent of the durations of said sound events.

48. (New) The method of claim 35, wherein said random time distribution is independent of the durations of said sound events.

49. (New) A method of synthesizing a complex sound, comprising:

generating a plurality of different kinds of simpler sound events at respective trigger times with repetitive occurrences of each kind,

establishing respective time distributions for the trigger times of at least some of said kinds of sounds independent of their respective durations, and

combining said simpler sound events into said complex sound.

50. (New) A method of synthesizing a complex sound event, comprising:

generating a succession of simpler sound events that are distributed in time at respective trigger times that are independent of the respective durations of said sound events,

controlling said simpler sound events in accordance with one or more sound event parameters, and

selecting the values of said sound event parameters in accordance with respective input parameters having random distributions.